

Appl. No. 09/801,602  
Amdt. Dated January 18, 2006  
Reply to Office Action of October 19, 2005

### REMARKS

Claims 1 to 9, 11, 13 to 14 and 16 to 18 are currently pending in the present application. Claim 1 is amended. Claim 3 is cancelled. The amendments are supported by the application as originally filed. Therefore no new matter has been added by the amendments. Reconsideration of the present application, as amended, is respectfully requested.

Claims 1 to 5, 8 to 9, 11, 13 to 14 and 16 to 18 stand rejected by the Action under 35 U.S.C. § 103(a) as being unpatentable over Regnell et al., "From Requirements to Design with Use Cases", *3<sup>rd</sup> Intl Workshop on Requirements Engineering – Proceeding CAISE '97*, June 1997 (hereinafter "Regnell") in view of Don Heim, "Requirements Management with Use Cases" Software Technology Conference May 1999 (hereinafter "Heim"). Claims 6 and 7 stand rejected by the Action under 35 U.S.C. § 103(a) as being obvious over Regnell and Heim in view of U.S. Patent No. 6,366,683 to Langlotz (hereinafter "Langlotz").

Independent claim 1 is amended in order to more clearly define the present claimed invention over the cited references. Amended claim 1 is directed to a method for simultaneously developing a family of complex systems having a common software architecture platform. The family of complex systems includes a plurality of complex systems the method includes the steps of constructing an initial requirements object model which explains abstract concepts in terms of a structured vocabulary, forming an initial set of use cases based on the initial requirements object model such that the use cases are expressed using the structured vocabulary of the requirements object model, the use cases describing interaction of users with each of said complex systems in terms of the structured vocabulary explaining the abstract concepts, forming an initial functional requirements specification (FRS) which includes use cases, forming an amended requirements object model based on the initial FRS and thus in consideration of the initial set of use cases, forming additional use cases based on analysis of the amended

Appl. No. 09/801,602  
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requirements object model, changing the FRS in light of the additional use cases, forming another amended requirements object model based on the changed FRS simultaneously with the formation of the additional use cases, repeating the additional use case formation step, the FRS changing step and the amended requirements object model formation step until all desired use cases have been formed and considered, obtaining a final requirements object model once all of the desired use cases have been considered, and expressing the differences between the members of the family in the requirements object models.

Neither Regnell nor Heim, taken either alone or in combination, teach the invention as set forth in claim 1, as amended. Specifically, claim 1 now claims a step of expressing the differences between members of the family in the requirements object model. As discussed in the specification on page 8, lines 24 to 33, the method of the present invention is a design specification of a whole family, rather than of a single system, therefore the specifications reflect that fact. The specifications and the model do not describe one or more individual products, but a domain. Accordingly, the specifications and the model are made independent of the concrete choices for the individual products to be implemented as members of the family. The specifications and the model form a common basis for the whole product family, stressing the commonalities rather than the differences between the products. Thus the present method eliminates inessential differences between the products that would otherwise arise, especially when different people are responsible for different products in the family. Nevertheless it is necessary to express the possible variation points between the systems in the domain. In the requirements object model these can be represented by specialisation, multiplicity and attributes.

Regnell is directed to a method for generating a component model using as input a list of requirements and a use case model itself derived from a list of requirements and a distribution model (see Figs. 1 and 2). As conceded by the Action, Regnell fails to disclose a method for simultaneously developing a family of complex systems having a

Appl. No. 09/801,602  
Amdt. Dated January 18, 2006  
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common software architecture platform, the family of complex systems including a plurality of complex systems, the method comprising a step of expressing differences in each family of a complex system, as is now clearly claimed in claim 1.

Heim also fails to disclose a method for simultaneously developing a family of complex systems having a common software architecture platform, the family of complex systems including a plurality of complex systems, the method comprising a step of expressing differences in each family of a complex system, as is now clearly claimed in claim 1. Heim is directed to a means for providing decision makers with integrated information resources necessary to optimize health service via a computer-based patient record. Specifically, Heim discloses a method for capturing requirements for an information system. As shown in the Process Overview on page 8, Heim describes a requirements management process in which a model is created from testing and use case definition prior to full-scale development. The Process Overview clearly shows that Heim does not contemplate a step of expressing differences in each family of a complex system, as is now clearly claimed in claim 1.

The Action suggests that a step of expressing differences in each family of a complex system is obvious. Applicant respectfully traverses this suggestion as evidenced by the failure of either Regnell or Heim to teach or suggest a step of expressing the differences in each family of a complex system.

Applicant further submits that there is no motivation to combine Regnell, directed to a method development project at Ericsson Radio Systems, focused on the transformation from requirements to design in the context of system evolution, with Heim, directed to a means for providing decision makers in a health care environment with integrated information resources necessary to optimize health service via a computer-based patient record, absent the benefit of hindsight from Applicant's application. Moreover, as discussed above, even if the cited references are combined as

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suggested by the Action, the cited combination fails to disclose Applicant's invention, as now set forth in claim 1.

In view of the foregoing, independent claim 1 is patentable over Regnell and Heim when taken either singly under 35 U.S.C. § 102 or in combination under 35 U.S.C. § 103(a).

The other references of record do not close the gap between the present claimed invention as defined by claim 1 and Regnell and Heim.

Therefore, claim 1 is patentable over all of the references of record under 35 U.S.C. § 102 as well as 35 U.S.C. § 103(a). Accordingly, the rejections under 35 U.S.C. § 103(a) of claim 1 should be withdrawn and claim 1 should be allowed.

Claims 2, 4 to 9, 11, 13 to 14 and 16 to 18 are either directly or indirectly dependent on claim 1 and are patentable over the references of record in view of their dependence on claim 1 and because the references of record do not disclose, teach or suggest each of the limitations set forth in claims 2, 4 to 9, 11, 13 to 14 and 16 to 18.

In view of the foregoing, Applicant respectfully submits that all claims presented in this application patentably distinguish over the prior art and the cited combinations of the same. Accordingly, Applicant respectfully requests favorable consideration and that this application be passed to allowance.

#### **Conclusion**

In view of the foregoing, Applicant respectfully submits that all claims presented in this application are currently in condition for allowance. Accordingly, Applicant respectfully requests favorable consideration and that this application be passed to allowance.


Appl. No. 09/801,602  
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Should any changes to the claims and/or specification be deemed necessary to place the application in condition for allowance, the Examiner is respectfully requested to contact the undersigned to discuss the same.

Applicant's representative believes that this response is being filed in a timely manner. In the event that any extension and/or fee is required for the entry of this amendment the Commissioner is hereby authorized to charge said fee to Deposit Account No. 14-1270. An early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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